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EXAMINER

KAUFFMAN, BRIAN K

ART UNIT PAPER NUMBER

3765

DATE MAILED: 07/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/811,201

Applicant(s)

SIEGL ET AL.

Examiner

Brian K. Kauffman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 16-19 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 12, 13 and 19 is/are allowed.  
6) ☒ Claim(s) 1-3, 5-11 and 16-18 is/are rejected.  
7) ☒ Claim(s) 4 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

The examiner acknowledges that claims 14 and 15 have been cancelled.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-8, 10, and 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Tholander (4,595,039).

In regard to claim 1, Tholander discloses a system for inserting a weft thread into a shed of an air jet weaving machine, the system including a thread store (2), a measuring apparatus (5) in order to be able to measure the weft thread which is drawn off from the thread store, a plurality of air nozzles (MN and RN) for the insertion of the weft thread and a control system (CU) which is connected to the measuring apparatus in order to be able to control the compressed air supply of the air nozzles in dependence on measurement values of the measuring apparatus, wherein switch-on points are associated with the air nozzles; and wherein the control system charges more than one of the air nozzles with compressed air as soon as a predictor value for the position of the weft thread tip, which is formed with the help of the measurement values, reaches the switch-on point of the relevant air nozzles (col. 7, line 48-col. 9, line 22).

In regard to claim 2, Tholander discloses that the air nozzles include at least one main nozzle (MN), wherein switch-on points are associated with the relay nozzles (RN), and wherein the control system charges more than one of the relay nozzles with compressed air as soon as a predictor value for the position of the weft thread tip which is formed with the help of the measurement values reaches the switch-on point of the relevant relay nozzles (col. 8, line 57-col. 9, line 22).

In regard to claim 3, Tholander discloses that the switch-on point of a group of air nozzles, which are charged with compressed air at the same time, corresponds to the position of the first nozzle of the group (col. 8, line 57-col. 9, line 22).

In regard to claim 5, Tholander discloses that the predictor value of the position of the weft thread tip is formed as a result of the measurement values, which are determined for the current weft thread (col. 9, lines 34-40).

In regard to claim 6, Tholander discloses that the switch-off points are associated with the air nozzles wherein the control system switches off one or more of the air nozzles which are charged with compressed air as soon as the predictor value for the position of the weft thread tip which is formed as a result of the measurement values reaches the switch off point of the relevant air nozzle, wherein the switch off point has a predetermined distance from the switch on point of the relevant air nozzle and wherein the switch off point corresponds to the position of a subsequent air nozzle in the shed (col. 8, line 57-col. 9, line 22).

In regard to claim 7, Tholander discloses that the air nozzles disclose at least one main nozzle wherein it is possible to couple the switch off points of the main nozzle

to the switch off point corresponding to the position of a subsequent air nozzle (col. 9, lines 17-22).

In regard to claim 8, Tholander discloses that the thread store is formed as a drum store onto which the weft thread can be wound and wherein the measuring apparatus is arranged at thread store and includes at least one sensor in order to be able to measure the draw off of one of the windings from the drum store (col. 3, lines 58-65).

In regard to claim 10, Tholander discloses a thread brake in order to be able to brake the weft thread towards the end of the weft insertion when the weft thread tip approaches the weft thread arrival side of the shed (col. 10, lines 9-15).

In regard to claim 16, Tholander discloses a system for inserting a weft thread into a shed of an air jet weaving machine, the system including a thread store (2), a measuring apparatus (5) in order to be able to measure the weft thread which is drawn off from the thread store, a plurality of air nozzles (MN and RN) for the insertion of the weft thread and a control system (CU) which is connected to the measuring apparatus in order to be able to control the compressed air supply of the air nozzles in dependence on measurement values of the measuring apparatus, wherein switch-on points are associated with the air nozzles; wherein the control system charges one of the air nozzles with compressed air as soon as a predictor value for the position of the weft thread tip, which is formed with the help of the measurement values, reaches the switch-on point of the relevant air nozzles; and wherein the control system switches off one or more of the air nozzles which are charged with compressed air as soon as the

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predictor value for the position of the weft thread tip which has formed as a result of the measurement values reaches the switch off point of the relevant air nozzle, wherein the switching off of the relevant air nozzle is delayed in relation to the switching on of one of the subsequent air nozzles (col. 7, line 48-col. 9, line 22).

In regard to claim 17, Tholander discloses that the switch-off point of the relevant air nozzle has a predetermined distance from the switch-on point of the air nozzle (col. 8, line 57-col. 9, line 16).

In regard to claim 18, Tholander discloses that the air nozzles include at least one main nozzle (MN), and wherein it is possible to couple the switch-off points of the main nozzle to the switch-off points of a predetermined relay nozzle (col. 9, lines 17-22).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tholander (4,595,039) in view of Takegawa (4,830,063).

In regard to claim 9, Tholander does not disclose at least one additional sensor being provided in the path of travel of the weft thread in order to be able to measure the position of the weft thread tip on the weft thread arrival side of the shed. Takegawa does disclose at least one additional sensor being provided in the path of travel of the weft thread in order to be able to measure the position of the weft thread tip on the weft thread arrival side of the shed (col. 3, lines 29-41). Takegawa teaches that the additional detector contributes to accurate calculations of the thread path, which lead to better control of the air nozzles (col. 4, lines 5-55). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Tholander's device by adding at least one additional sensor being provided in the path of travel of the weft thread as taught by Takegawa because it would contribute to accurate calculations of the thread path which lead to better control of the air nozzles.

In regard to claim 11, Tholander discloses that the control system includes a regulation device which is connected to the weft thread monitor in order to be able to determine, from the measurement values of the weft thread monitor, the time required for the insertion of the weft thread and to be able to compare it with a predetermined desired insertion time, and in order to be able to regulate the flow through the air nozzles using the difference between the time required for the insertion of the weft thread and the desired insertion time (col. 8, lines 20-47).

***Allowable Subject Matter***

Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 12 and 13 are allowed.

The following is an examiner's statement of reasons for allowance: Claims 4, 12, and 13 specifically require that a safety factor be contained in the predictor values for the position of the weft thread tip.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Response to Arguments***

Applicant's arguments filed 4/19/2005 have been fully considered but they are not persuasive.

In regard to claim 1, the applicant argues that Tholander does not disclose switching on more than one air nozzle depending on the predicted position of the weft thread tip. Tholander does disclose switching on more than one air nozzle depending on the predicted position of the weft thread tip (col. 9, lines 17-22). In the disclosed embodiment, no relay nozzle is closed until the main nozzle is closed. Since all relay nozzles are switched on at some point depending on the predicted position of the weft thread tip, and none are individually closed, more than one air nozzle is switched on depending on the predicted position of the weft thread tip.



In regard to claim 16, the applicant argues that Tholander does not disclose delaying the switching off of relevant air nozzles in relation to the switching on of the subsequent air nozzles. Tholander does disclose delaying the switching off of relevant air nozzles in relation to the switching on of the subsequent air nozzles (col. 9, lines 17-22). Since the relay nozzles are not closed until all the nozzles are open, the switching off of relevant air nozzles is delayed in relation to the switching on of subsequent air nozzles.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K. Kauffman whose telephone number is (571)272-4988. The examiner can normally be reached on M-F every week.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Calvert can be reached on (571)272-4983. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BKK  
7/7/05

  
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